Ability to bind to this recognition site does not automatically confer either inhibitory character or the ability to prevent CAM binding. It is apparent that CAM binding is strongly inhibited by peptides with a short extension after the RRKRK (SEQ ID NO: 10) motif; a three residue extension produced a peptide which reduced CAM binding to near background levels, while even a single residue produced a small decrease. The ability of the two polypeptides which ended in the RRKRK (SEQ ID NO: 10) motif to potentiate CAM binding strongly suggests that a region of overlap between the CAM binding site and the peptide binding site exists, in which the overlap occurs between bound CAM and residues towards the C terminal from RRKRK (SEQ ID NO: 10). In the intrinsic peptide other residues may contribute to the overlap, since it is both larger and more conformationally constrained than the synthetic analogs used here as probes.

A9

Amendments to the specification are indicated in the attached "Marked Up Version of Amendments" (pages i - vi).

In the Claims

Please amend Claims 31-33 and 48-50. Amendments to the claims are indicated in the attached "Marked Up Version of Amendments" (pages vi - viii).

31. (Amended) A method of activating endothelial nitric oxide synthase, comprising contacting the endothelial nitric oxide synthase with an effective amount of an activator of endothelial nitric oxide synthase which antagonizes autoinhibition by a peptide region of endothelial nitric oxide synthase, wherein the region is between about amino acids 590-650 of endothelial nitric oxide synthase.

A10

32. (Amended) A method of activating endothelial nitric oxide synthase, comprising contacting the endothelial nitric oxide synthase with an effective amount of a constitutive nitric oxide synthase activator peptide comprising an amino acid sequence selected from the group consisting of: SEQ ID NO. 4, SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7, SEQ ID NO. 8, SEQ ID NO. 9, and activating fragments and derivatives of SEQ ID NO. 4, SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7, SEQ ID NO. 8, SEQ ID NO. 9.

A10

33. (Amended) A method of activating neuronal nitric oxide synthase, comprising contacting the neuronal nitric oxide synthase with an effective amount of an activator of neuronal nitric oxide synthase which antagonizes autoinhibition by a peptide region of neuronal nitric oxide synthase, wherein the region is between about amino acids 820-880 of neuronal nitric oxide synthase.

48. (Amended) A method of treating a disease modulated by production of nitric oxide by endothelial nitric oxide synthase in a mammal, comprising administering to the mammal an effective amount of an activator of endothelial nitric oxide synthase which antagonizes autoinhibition by a peptide region of endothelial nitric oxide synthase, wherein the region is between about amino acids 590-650 of endothelial nitric oxide synthase. (SEQ ID NO: 1)

A11

49. (Amended) A method of treating a disease modulated by production of nitric oxide by endothelial nitric oxide synthase in a mammal, comprising administering to the mammal an effective amount of a constitutive nitric oxide synthase activator peptide comprising an amino acid sequence selected from the group consisting of: SEQ ID NO. 4, SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7, SEQ ID NO. 8, SEQ ID NO. 9, and activating fragments and derivatives of SEQ ID NO. 4, SEQ ID NO. 5, SEQ ID NO. 6, SEQ ID NO. 7, SEQ ID NO. 8, SEQ ID NO. 9.

B2

50. (Amended) A method of treating a disease modulated by production of nitric oxide by neuronal nitric oxide synthase in a mammal, comprising administering to the mammal an effective amount of an activator of neuronal nitric oxide synthase which antagonizes autoinhibition by a peptide region of neuronal nitric oxide synthase, wherein the region is between about amino acids 820-880 of neuronal nitric oxide synthase.